

Abstract

A method and apparatus for rapid and efficient changing-over the coating molten metal in a continuous steel strip coating line from a first aluminum-based coating composition to a second zinc-based coating comprising a first ceramic-lined tank provided with heating means for controlling the temperature of the molten metal in said first tank and a second smaller removable tank without heating means for containing said second coating molten metal adapted to be placed within said first tank, wherein the wall of the second removable tank is effectively heat conductive and preferably has a wall downwardly converging so that its positioning within the first tank is facilitated and damage to its ceramic lining is avoided. The weight of the second tank is mostly supported by the floating forces of the molten bath in said first tank. During use of the second tank, the composition of said first bath is adjusted away from its coating composition by removing a large portion of the aluminum-zinc content and adding zinc to the remaining bath; so that its melting point is lowered to prevent solidification at the zinc coating temperatures, preferably to within 400°C and 480°C and its density is preferably in the range of 5.5 to 6.0 tons/m³. The volume of the second tank is designed so as to simplify the adjustment of composition of the first bath by withdrawing a predetermined volume of the aluminum-based coating metal (sufficient to accommodate the placement and immersion of the second tank in the first tank) and adding molten zinc thus obtaining the desired melting temperature and density and filling volume in the first tank..